

DEPARTMENT OF TRANSPORTATION

RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION

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RIN 2137-AC54

PIPELINE SAFETY: PERIODIC UNDERWATER INSPECTIONS

DRAFT FINAL REGULATORY EVALUATION AND

REGULATORY FLEXIBILITY CERTIFICATION

Background and Need for the Regulation

The Research and Special Programs Administration's (RSPA) Office of Pipeline Safety (OPS) is responsible for ensuring adequate safety and environmental protection for the risks posed by the nation's approximately 2 million miles of gas and hazardous liquid pipelines. Twice in the late 1980's in the Gulf of Mexico, fishing vessels struck offshore gas pipelines. These incidents resulted in the deaths of 13 fishermen. The National Transportation Safety Board (NTSB) investigation of these incidents cited among the causes the pipeline operators failure to maintain the pipeline at its initial burial depth. Further, NTSB cited RSPA's failure to require pipeline operators to inspect and maintain submerged pipelines in a protected condition. NTSB recommended that RSPA develop and implement requirements to ensure that pipeline operators inspect and maintain submerged pipelines in areas subject to damage by surface vessels.

A joint task force of Federal Agencies was formed to study offshore pipeline issues. The conclusions were similar to those of the NTSB. However, they concluded the problems of underwater buried pipeline were not confined to the Gulf of Mexico.

The Congress in 1990, required that operators of offshore pipeline facilities in the Gulf of Mexico conduct a one-time underwater depth of burial inspection of pipeline facilities and report to the Department of Transportation on any exposed portion of pipeline or any pipeline that would pose a hazard to navigation (49 U.S.C. 2002 Sec 203 (1)(A)). On December 5, 1991, RSPA required that pipeline operators in the Gulf perform a one-time inspection of underwater pipelines that could cause a threat to navigation (56 FR 63764). Over 1,560 miles of pipeline in the Gulf of Mexico were inspected. Approximately 25 miles or less than 2% of the inspected pipeline was reported to be exposed or to be a hazard to navigation.

Congress also required the Department of Transportation to establish a mandatory, systematic and where appropriate, periodic pipeline inspection and reburial program for all shallow water submerged pipelines in the Gulf of Mexico. In 1992 Congress expanded the requirement to include all offshore pipelines, underwater abandoned pipeline facilities, and all facilities which cross under, over, or through navigable waters, if the location could pose a hazard to navigation (Pub. L. 102-508 (49 U.S.C. 1692(h)(3)).

Benefits

RSPA believes that the main benefit of this proposed regulation requiring operators to develop a procedure that would assess the probability of the pipeline being exposed or a hazard to navigation by taking into account the particular dynamics of the water bottom, including the probability of floatation, scour, erosion and the impacts of a major storm is that it will further reduce the amount of exposed pipeline that is underwater either offshore or in navigable waterways and reduce the likelihood to these pipelines being struck by vessels.

By requiring the development of a procedure to identify which pipelines offshore or in navigable waterways are subject to becoming exposed, operators will be able to identify problem pipelines before they become a hazard. OPS acknowledges that indeed most pipeline are adequately buried and pose little to no danger to navigation. However, as evidenced by the two accidents in the 1980's, that exposed pipelines offshore and in navigable waterways have the potential for serious harm to the public.

Costs

As the above discussion indicates, only a small percentage of pipeline in the Gulf appears to pose a threat to navigation. OPS spoke with several safety officials from pipeline operators who had both hazardous liquid and gas pipelines that was offshore and in navigable waterways. All the operators who were contacted confirmed that they periodically inspect their pipelines offshore and in navigable waterways to ensure that it does not pose a threat to navigation. Several of these operators who had hazardous liquid pipelines in navigable waterways explained that they already complied with 49 CFR 195.412 which requires operators with hazardous liquid pipelines in navigable waterways to inspect those pipelines every 5 years. One operator did suggest that they did not have a formal procedure on underwater inspection. However, after further conversation he conceded that the engineering department did have a procedure for inspection of these pipelines. All the pipeline operators readily admitted that they knew which pipelines were more likely to be subject to scour. Scour is the erosion of the seabed that covers buried underwater pipeline. In light of these conversations, OPS believes while operators likely have written procedures for performing inspections they may not have written procedures for determining the likelihood (risk assessment) for pipelines being exposed. They may rely more on an intuitive sense of which pipelines are subject to problems. Furthermore, even if operators have written procedures it is very likely they will need to review the adequacy of these procedures in light of a proposed RSPA regulation.

OPS data suggests that there are approximately 50 hazardous liquid and 75 gas transmission operators that may be subject to this proposed rule. However, some of the pipeline mileage may not be subject to this proposed rule as some pipeline may be in water of greater than 15 feet. Some operators have less than 1 mile of pipeline that may be subject to this proposal while other operators may have hundreds of miles.

For those companies with considerable mileage that would be subject to regulation, the process of developing a formal written procedure could take a lot of time. However, as stated above it is likely that these operators already have procedures for inspection of these pipelines. Nonetheless, OPS estimates that this proposal will take an operator 1/4 person year (500 hours) to review the proposed regulation and ensure that its procedures meet those mandated by RSPA. If the loaded wage for this employee is estimated at \$100 per

hour, the cost per company of developing the plans is \$50,000 (500 hours X \$100 per hour = \$50,000). The total industry costs of developing the plans is \$6.25 million (\$50,000 X 125 companies = \$6.25 million).

The initial underwater surveys cited above indicated that 2% of all surveyed lines in the Gulf of Mexico were exposed. For purposes of analysis, OPS estimates that 5 times the 2% of pipelines that were estimated to be exposed in the initial survey could be subject to scour and potentially become exposed. Therefore, periodic inspection would be conducted annually. If 10% of companies have pipelines subject to scour this is approximately 13 companies per year that would perform annual underwater inspections.

According to operators and companies that perform this type of inspection the costs generally range from \$10,000 to \$20,000 per inspection. If a mid point estimate of \$15,000 is used the cost of inspection annually to the entire industry is \$195,000 (13 X \$15,000 = \$195,000). Therefore, total initial cost is \$6.25 million for plan development and \$195,000 annually for periodic inspection.

Conclusion

While exposed underwater pipelines do not appear to pose a daily threat to public safety, the incidents that occurred in the 1980's show the devastating potential for harm and resulting loss of life should vessels strike and rupture them. The Office of Pipeline Safety believes that the benefits of protecting the public from these potential catastrophic incidents outweighs the costs of this proposed rule.

Regulatory Flexibility Certification

The costs of this proposed rule are relatively minor to pipeline operators. As discussed above, the costs are a one-time cost of \$50,000 for developing a risk-management based plan to examine the potential for buried underwater pipeline to become exposed and a cost of \$15,000 per inspection (for the 10% of operators who will be required to inspect their pipelines annually). The Office of Pipeline Safety does not believe that these costs will pose an undue burden to any pipeline operator. The Office of Pipeline Safety is soliciting information from anyone who has information that these costs may prove to be an undue burden to any pipeline operator. Based upon the above analysis I certify under Section 605 of the Regulatory Flexibility Act that this proposed rule will not have significant impact on a substantial number of small entities.